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ABSTRACT

Categories such as commanding, requesting, and explaining were used to analyze communicative intentions in conversations of 108 children, aged five through nine, during three sets of play activities varying in task specification and leadership role assignment. Results showed that the frequency and variety of communicative intention categories increased with age, as did differences in category use between tasks. Role designation, socioeconomic status, and sex did not have statistically significant effects. Teachers' ratings of ability to express ideas in a classroom correlated significantly with the frequency and variety of communicative intention categories. The findings suggest that within this age range, language use is increasingly sensitive to task variation but not to leadership designation. (Author/FL)

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# COMMUNICATIVE INTENTIONS: EFFECTS OF TASK VARIATION AND ROLE DESIGNATION

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Communicative Intentions:

Effects of Task Variation and Role Designation


## Abstract

Categories of communicative intentions such as commanding, requesting, and explaining were used to analyze conversations of kindergarten, first-, and third-grade children during constructive play activities. The aim was to determine the frequency and variety of communicative intention categories with increasing age, task variation and role assignment. Category use was also correlated with other parameters which distinguish speakers by means of social dimensions of language (socioeconomic status, sex) and with concurrent measures of language use (ability to express ideas in a classroom and reading achievement). Frequency and variety of communicative intention categories increased with age as did differences in category use between tasks. Role designation, socioeconomic status and sex were not statistically significant variables. Ability to express ideas in a classroom correlated significantly with frequency and variety of communicative intention categories. Results suggest that with this age group there is an increasing sensitivity in language use to task variation but not to leadership designation.

Research on language development has expanded rapidly from a narrow focus on syntax to a broader view which includes semantic as well as social and motivational aspects of speech functioning. One important aspect of the social context of communication on which little data exists is the effect of task demands on children's use of language. Investigations of children's communication skills rarely discuss the situation in which language samples are collected. Many researchers describe the setting simply as free play (Honig, Caldwell & Tannenbaum, 1970; Schachter, Kirshner, Klips, Friedricks & Sanders, 1974). The few researchers who have considered the impact of task demands on language argue, however, that it influences the way even young children use language (Janus, 1943).

The primary aim of this study was to determine the extent to which communicative intentions varied with task and role designation in three age-groups. It was anticipated that with increasing age, children's conversations would show an increasingly differentiated use of communicative intentions in response to varying task demands. Developmental differences were also expected in the differential use of intentions by children designated as boss and those who were not. A secondary objective was to analyze category use according to language parameters which distinguish speakers on the basis of sex and socioeconomic status. These variables were included simply to test the generalizability of results; hence, no predictions were made for sex and social class differences. The final aim was to determine the relationship between category use and two concurrent language measures: teacher ratings of the children's ability to express opinions and ideas in the classroom and standard reading achievement scores.

The study of language use in social interactions requires an analysis which incorporates a speaker's intention as well as linguistic markings for form and meaning. Introduced by Austin (1962), the speech act is a construct which provides a means for investigating language in context. Refined by Searle (1969) and again by Dore (in press), it includes both what is said and how an utterance is to be understood. Working within this conceptual framework and drawing upon the classfication scheme of Schachter, Kershner, Klips, Friedricks, & Sanders (1974), twenty communicative intention categories were defined as the units of analysis for this study. Categories included requests (e.g. commands and suggestions), responses (e.g. agreements or disagreements,) statements of prediction or explanation, positive and negative evaluation, expressive remarks and descriptions of ongoing events. The following indicators were considered in categorizing intentions: the literal meaning of utterances, their grammatical form and prosodic features, information in the utterance related to the context in which it was spoken, and contingent verbal and non-verbal behavior (Dore, 1977).

The strategy used in this study was to classify children's spontaneous conversations in three contexts on the basis of frequency and variety of categories which reflect expressed intention. The situations varied in task requirements and in group membership; however, size of the group, materials provided, and physical setting remained constant. One situation posed a simple construction problem with rules explained to all participants. In another task, one child was told to assume a leadership role while the other children remained unaware of this status assignment. In a third situation, no task restriction were imposed and children were directed to construct whatever they wished.

## Method

Subjects: One hundred eight children aged five to nine, attending predominantly white public elementary schools in a Boston suburb served as subjects. Approximately equal numbers of girls and boys were selected from three grade levels, 36 children each from kindergarten, first and third grade. Chronological age in the kindergarten group ranged from 5;3 to 6;6 (M=5;9), in the first grade from 6;3 to 8;1 (M=6;10), and in the third grade from 8;5 to 10;1 (M=9;2). Within each grade level, eight boy-girl triads from the same classroom were randomly constituted. Scores for three children were eliminated due to equipment failure in one recording session.

Procedure: Each triad was observed in a room adjacent to the classroom. Three tasks were administered in a constant order:

Block Man: The children were asked to cooperate in constructing a figure that matched a previously constructed model, using colored, interlocking plastic blocks. When the experimenter felt that rapport had been established, the triad received the following instructions:

> I have a game for you to play. See these two men: They are exactly alike, aren't they? Same shape, same color. I'm going to take one apart and give each of you some of the pieces. Now, I want you to put the pieces together again and build a man exactly like this one. You can talk as much as you like and you can talk to each ohter about what you're doing. You can start now. Remember, to build a block man exactly like this one. You have to use all of the pieces. And remember, you have to do this together.

House: Approximately one week later, the children were observed in a second session. The triads were newly constituted and the following roles were randomly assigned: one child was designated boss

(B), the other two children served as target children (TC). Upon their arrival in the experimental room, the boss was told to accompany one experimenter and the target children, the second experimenter.

> The boss received the following instructions: Remember these blocks? You're going to build a house. You are going to be in charge of making the house. You decide what kind of house you want to build. Then you and _____ and _____ (TC's names) will build the house together. You have to tell _____ and _____ (TC's names) what they have to do to help build your house. Remember, you're the boss. You're in charge. OK?

Simultaneously, in another part of the room, the second experimenter gave these instructions to the target children:

> Rembember these blocks? You're going to do something different with them. This time, you're going to build a house together. You will work with _____ (B's name) to build a house.

The triad was then assembled at the worktable, with the boss being placed between the target children. The first experimenter continued:

> You will build your house on this piece of land (green sheet of paper was placed in front of B). Work together and build the nicest house you can. You have ten minutes to build your house. You can talk as much as you like, and tell each other what you are doing. Don't worry about disturbing us.

The research design precluded replications of the house task. Thus, not all of the children had the opportunity to play boss.

Free Building: At the end of the ten minute period, the experimenter instructed the children to take the house apart and build whatever they wished.

Conversations were tape- recorded for up to ten minutes in the block man and house tasks, and for five minutes in the free building; however, since the children spoke frequently and quickly, only the first five minutes from each setting was used for analysis. In addition, one observer taped a running narrative account of the subjects' verbal and nonverbal behavior; a second observer made contextual notes of the session. Particular attention was paid to who was speaking to whom, as well as to gestures, facial expression, and motor behavior.

The conversations were transcribed verbatim and coordinated with the running narrative accounts recorded by the two observers. Since grade and sex were major variables under investigation, two precautions were taken in preparing the transcriptions for the coding phase: letters of the alphabet were substituted for names and pronouns revealing gender were neutralized.

The conversations were then divided into utterance units. An utterance was defined as a meaningful unit of speech ending in a pause or separated by another child's speech. In cases where an utterance was partially repeated or slightly rephrased, the repetition was included with the first utterance (e.g., I got I got a big one). Full thoughts which were repeated were scored separately (e.g., /I mean the yellow one/ the yellow one!/). When there was a choice in parsing utterances, the smallest unit was used.

Utterances were then classified by two pairs of judges into communicative intention categories derived from a pilot study and other research (Dore, 1977; Schachter et. al. 1974). The category headings correspond closely with those reported by Dore; however, individual categories vary somewhat in organization and additional ones are included to reflect the language of an older population.

Communicative Intention Categories

Requests: Intentions to be taken as an appeal by the listener.

1 Ask: Expresses a wish for some object, information or approval. (Can I have one of yours?)

2 Attention Bid: Solicits the listener's attention. (Hey you guys.)

3 Command: Direct request of another child. (Wait!)

4 Instruction: Indirect request for an act to be performed in a specified way. (It goes like this.)

5 Plea: Urgent request using a beseeching tone. (Oh, don't wreck it.)

6 Suggestion: Indirect request that a thought, desire or problem be considered. (How about making another window here.)

7 Need: Asserting a desire for an object, help, etc. (I need one of those.)

8 Bargain: Request for objects or actions through agreement, barter or trade. (I'll give you two reds if you give me a blue.)

Responses: Intentions to be taken that the previous utterance is understood and that this utterance is in reply to it.

9 Agreement: Reply to a previous utterance or gesture indicating agreement, compliance, confirmation, approval or acquiescence. (Okay.)

10 Disagreement: Reply to previous utterance or gesture indicating disagreement, non-compliance, disconfirmation, disapproval or rejection. (No I won't.)

Statements: Intentions to be taken as expressions of belief that some unobservable fact is true.

11 Prediction: Expresses the belief that an event will or will not take place. (Your tower is going to fall.)

12 Explanation: Expresses speaker's belief about the reason for a given state of affairs. (If we push this in, the whole thing will tumble down.)

13 Child rule: Expresses rules involving roles, objects, turns or task requirements. (That's mine.)

14 Adult Rule: Expresses rules established by the experimenter and is present only under experimental conditions. (I'm the boss here.)

15 Accusation: Expresses speaker's belief that a rule was violated. (You stole mine.)

Evaluation: Intentions to be taken that the utterance is a personal judgment about the physical or psychological well-being of the speaker or listener.

16. Taunt: Expresses speaker's intent to reproach or mock the listener (I told ja.)

17. Positive Evaluation of Others: Expresses speaker's intent to enhance the listener's ego. (Yours is nice.)

18. Negative Evaluation of Others: Expresses speaker's intent to derogate the listener's ego. (You're a dumb-dumb.)

19. Positive Evaluation of Self: Expresses speaker's intent to enhance his own ego. (I'm a genius.)

20. Negative Evaluation of Self: Expresses speaker's intent to derogate his own ego. (I can never do it.)

21. Threat: Expresses speaker's intent to hurt or retaliate against listener. (I'll kill you if you do.)

Expressive Effects: Intentions to be taken that the utterance is said purely to express an emotion.

22. Expressive Remark: Expresses speaker's intent to display his emotion. (Yikes!)

Descriptions: Intentions to be taken as accurate representations of the environment.

23. Report: Relates an observation, thought, experience or fact. (I'm making a monster.)

In addition to the language samples, the following background information was obtained from the school records: father's occupation, which served as the basis for the determination of socioeconomic status (Warner, Meeker, & Eells, 1949) and reading achievement as measured by the Iowa Test of Basic Skills (available for third grade only.) Finally, teachers' ratings of each child's interpersonal behavior in the classroom were obtained using the Kohn Social Competence Scale (Kohn & Rosman, 1972). The analysis included only the measure which focused on the child's ability to express his desires and opinions and to get others interested in what he is doing.

## Results

A major concern of the study was whether categories which judged

assumed intentions of speakers could be assigned reliably. In order to determine intercoder reliability, the following formula was used: A = (U-D)/ (U + 1/2 X), where A=intercoder reliability, U=total number of utterances designated by both coders, D=total number of disagreements between coders on the same utterance, and X=total number of utterances scored by one coder but not the other (Fleiss, Cohen & Everitt, 1969). Intercoder reliability scores for two sets of coders scoring 9,852 utterances ranged from 94% to 96%. Only the categories which were assigned to 1% or more of the total conversations were used in the analysis. There were seventeen in all. Of the utterances which were not classified at all, 6% were inaudible, incomplete or made no sense in the context in which they were spoken 8% were conversation fillers, and 1% were dramatic play. Reliable distinctions between egocentric & social speech proved impossible but most potential egocentric remarks were classified in the Report category.

The mean length of utterance did not vary significantly with grade, task or sex (range: 2.8 to 3.6 words per utterance). A high incidence of one word utterances in the Command and Instruction categories accounted for the short utterance length.

Category frequency was computed by adding the total number of categorized utterances for each child across the three tasks. Category variety was computed by determining the total number of different categories each child used in the three tasks. In order to test the independence of the frequency and variety measures, the two scores were calculated proportionally for each child. Proportions between measures increased significantly with grade ($F$ (2, 105)=51, $p<.01$), indicating that increased

variety was not simply a function of increased frequency.

Task means listed by grade in Table 1 reveal reveal increasing differences in both frequency and variety of communicative intention categories for the house and free building tasks. Means for the block man task remained approximately the same across grade levels.

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Insert Table 1 about here

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Two 3x2x2 multivariate analyses of variance were used to analyze the data. The first used independent variables grade, sex, and boss with frequency of category use in three tasks (block man, house, and free building) as the dependent variable. The second analysis kept the same independent variables, but used variety of category use in the three tasks as the dependent variable. These analyses revealed significant differences in both frequency and variety scores by grade (frequency: $F$ (6,182)=2.6, $p<.02$; variety: $F$ (6,182)=3.8, $p<.001$). Neither the sex nor the boss variables nor any of the interactions were significant.

Differences in the mean frequency and variety scores between grades were checked for each task to determine the source of the variance. Table 2 shows that the major variation occurred on the house task. Significant differences were found on that task between each of the three grades on frequency scores. On the variety measure, significant differences occurred between kindergarten and grades 1 and 3, but not between the latter two grades. In the free building task, a difference occurred on variety scores between kindergarten and grade 3.

Insert Table 2 about here

T-tests were comprised to determine whether the mean frequency and variety scores differed significantly with task across grade levels. Table 3 shows that each task was significantly different from the others for both frequency and variety means.

Insert Table 3 about here

Table 4 reveals that categories designated most frequently also varies the most with grade and task. The Command and Instruction categories increased with grade, while the Report category was designated most often in the free building task, the Instruction category most often in the block man task, and the Command category most often in the house task.

Insert Table 4 about here

In contrast to the target children, subjects who were assigned the role of boss could have been expected to express more statements soliciting action (e.g., Commands and Instructions) from other group members. Evidence that individual children understood the experimental instructions came from examples such as : "No! I want it the way I want it, Jeffrey, cause I'm the boss" and "Well, all right, I'll give you some, cause I'm the boss anyway." However, no overall significant differences in frequency

or variety of category designation emerged between boss and target children. A Wilcoxon test comparing the frequency of category use between boss and target children during the role task (house) vs. the other tasks (block man and free building) also yielded no significant differences.

Kendall correlation coefficients, calculated to determine the relations between the frequency and variety of category use and socioeconomic status, social competence and reading achievement, revealed significant correlations with social competence, but not with socioeconomic status or reading achievement.

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Insert Table 5 about here

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Discussions

This study showed that categories of communicative intention assigned to children's conversations vary with the task they are talking about, and that these differences increase with age. The use of communicative intention categories provides a more subtle measure of the growing proficiency of children's use of language than the gross measure of an increased volume of language which is often used. Analysis of conversations on the basis of communicative intentions suggests that children not only speak more but are developing an ability to use certain patterns of language which are appropriate to the particular social contexts with which they are presented. The fact that there was a relation between the use of particular categories of communicative intention with particular tasks shows that the children are not merely increasing the words which they use but selecting the words and language patterns in response to the social context.

In the block man situation the children made considerable use of non-verbal gestures such as pointing to the model and nodding. Brief instruction statements such as "Here" or "No, over there" accompanying the gestures was all that was necessary to convey intention. With such utterances, analysis of the meaning and syntax of the language itself does not yield information as to the purpose of the utterance. Categorizing and measuring the intentional component utilizing the social context is essential in understanding the actual function of language.

Although requirements had been specified for the house task, the dimensions of the house were not defined. This factor increased the use of language for soliciting action and Commands were scored proportionally more often during this task, although children designated as boss did not use them differentially more often than others. Finally, no task requirements were placed on the free building task which was characterized by simple reporting of action in progress. It is interesting to note that the Report category, the most neutral with regard to intention and the most likely to include egocentric remarks, varied with task as well as with grade. This finding suggests that responses which could be interpreted as egocentric are a function not only of development but also of the situation.

The assignment of the boss role did not result in significant changes in linguistic behavior either of children given the role or of the target children. This study was not designed to analyze the ability of children to take a particular role in the sense of assuming the perspective of another person. It appears, however, that simply telling children to

assume a particular role is not sufficient to modify the pattern of their language use or established modes of interaction in the context of classroom friends. Since research has shown that young children do adopt roles (Greif, 1976), further studies are required to determine the extent to which adoption of a specific role by a child is reflected in the child's language use. More research also needs to be done on the kinds of social contexts in which children are able to adopt specific roles. Examination of group composition effects might be revealing. It is possible, for example, that children may be more willing to enact a boss role with younger children than with same-age peers.

For researchers interested in analyzing language in relation to the social context in which it is spoken and in measuring the variation in language across different tasks, this study provides a reliable and comprehensive set of categories. Significant correlations between communicative intention categories and individual children's ability to communicate in regular classroom settings lend additional support for their appropriateness in investigating children's language use. Our data suggest that early primary school children are beginning to vary their communicative intentions to fit differences in task requirements. Naturally occurring roles and tasks appear to be a fruitful way to investigate this development.

Table 1

Means and Standard Deviations of Frequency (F) and Variety (V) of Communicative Intention Categories for Three Tasks by Grade

| Grade | | Block Man | | House | | Free Building | |
|---|---|---|---|---|---|---|---|
| | | f | v | f | v | f | v |
| Kindergarten | M | 16.95 | 4.70 | 23.40 | 6.00 | 20.75 | 5.65 |
| | SD | 24.60 | 4.40 | 23.55 | 5.60 | 25.75 | 5.30 |
| First Grade | M | 17.95 | 4.95 | 47.65 | 9.40 | 27.15 | 8.35 |
| | SD | 23.30 | 4.50 | 41.25 | 4.76 | 19.00 | 3.80 |
| Third Grade | M | 19.45 | 6.55 | 60.75 | 11.35 | 32.60 | 8.60 |
| | SD | 18.45 | 3.35 | 43.90 | 4.35 | 25.00 | 4.80 |

Table 2

Bonferroni t-strategy for Differences in Mean Frequency (f) and Variety (v) of Communicative Intention Categories for Three Tasks by Grade.

| Grade Comparisons | Tasks | | | | | |
|---|---|---|---|---|---|---|
| | Blockman | | House | | Free Building | |
| | f | v | f | v | f | v |
| Kindergarten vs. grade 1 n=33 n=36 | .181 | .244 | 7.705* | 2.833* | 1.167 | 2.461 |
| Kindergarten vs. grade 3 n=33 n=36 | .450 | 1.806 | 12.379* | 4.458* | 2.160 | 2.689* |
| grade 1 vs. grade 3 n=36 n=33 | .272 | 1.562 | 14.10* | 1.625 | .994 | .228 |

df = 93
*P<.01

Critical value of t = 2.47

Table 3

*t*-Test for Differences in Frequency and Variety of Communicative Intention Category Means for Three Tasks Across Grades

| | Communicative Intention Categories | |
|---|---|---|
| | Differences between Frequency Means | Differences between Variety Means |
| Block Man vs. Free Building | 7.40* | 2.82* |
| House vs. Free Building | 8.69* | 2.86* |
| Block Man vs. House | 5.25* | 3.89* |

* $P<.01$; n=105

Table 4

Percent of Frequency of Communicative Intention Categories According to Grade, Task, Role and Sex

| Communicative Intention Categories | Grade | | | Task and Role | | | | Sex | |
|---|---|---|---|---|---|---|---|---|---|
| | Kinder-garten | First Grade | Third Grade | Block Man | House Target | House Boss | Free Building | Male | Female |
| **Requests** | | | | | | | | | |
| Ask | 9 | 6 | 4 | 5 | 6 | 5 | 7 | 6 | 6 |
| Attention bid | 7 | 10 | 5 | 4 | 7 | 6 | 7 | 6 | 6 |
| Command | 9 | 12 | 16 | 12 | 14 | 14 | 11 | 12 | 14 |
| Instruction | 8 | 12 | 13 | 23 | 11 | 11 | 6 | 12 | 11 |
| Suggestion | 3 | 2 | 3 | 1 | 3 | 2 | 3 | 2 | 3 |
| Need | 4 | 3 | 2 | 4 | 3 | 4 | 2 | 3 | 3 |
| **Responses** | | | | | | | | | |
| Agreement | 4 | 3 | 5 | 5 | 4 | 5 | 4 | 5 | 3 |
| Disagreement | 6 | 6 | 7 | 8 | 5 | 8 | 6 | 6 | 7 |
| **Statements** | | | | | | | | | |
| Prediction | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Explanation | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Child Rule | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Accusation | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| **Evaluation** | | | | | | | | | |
| Negative Evaluation--Others | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 |
| Positive Evaluation--self | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 |
| Negative Evaluation--self | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| **Expressive Effects** | | | | | | | | | |
| Expressive Remark | 4 | 4 | 2 | 2 | 3 | 4 | 4 | 3 | 3 |
| **Descriptions** | | | | | | | | | |
| Report | 22 | 20 | 17 | 13 | 20 | 16 | 25 | 19 | 19 |
| **Non-scored Utterances** | 15 | 16 | 16 | 14 | 15 | 17 | 15 | 17 | 14 |

Note. Categories with less than 1% frequency are not listed.

Table 5

Correlations Between Frequency and Variety of Communicative Intention Categories and Socio-economic Status, Social Competence, and Reading Achievement

| | Socioeconomic Status | | Social Competence | | Reading Achievement | |
|---|---|---|---|---|---|---|
| | | N | | N | | N |
| Frequency of Communicative Intention Categories | .04 | (105) | .14* | (104) | .10 | (35) |
| Variety of Communicative Intention Categories | .01 | (105) | .14* | (104) | .02 | (35) |

* $p<.05$

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